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EXAMINER

PHAM, TUAN

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/004,001

Applicant(s)

ZHAO ET AL.

Examiner

TUAN A. PHAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12, 14, 15, 18 and 27-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 14-15, and 27-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Pre Appeal Brief, filed on 05/04/2006, with respect to the rejection(s) of claim(s) 1-10, 12, 14-15, 18, and 27-37 under 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is based on the remark filed on 10/06/2005.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. **Claims 1-10, 12, 18, and 27-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Public Application (Nokia user's manual 900i 06/07/1998,**

hereinafter, "AP") in view of Dayton et al. (U.S. Patent No.: 4,799,254, Hereinafter, "Dayton").

Regarding claims 1, and 30, PA teaches a communication device (see figure 2-11), comprising:

a multifunctional keyboard, wherein a plurality of keys on the multifunctional keyboard correspond to both a number and a letter, and wherein each of the keys generates a keyboard output signal (see figures 1-1, 2-11, key board has plurality of keys, page 2-10);

a keyboard mode control software module operating on the processor that controls whether the keyboard output signals from the letter keys are converted into character codes or telephony tone signals from the letter key are converted into character codes or telephony tone signals (see figure 2-11, keyboard as shown in figure 2-1 is supported plurality of software application, page 2-8, 2-10, 2-11, it is obvious that the keyboard should be included the controller to operate the mode associate with the application);

a plurality of software applications stored in a memory of the communication device and executed by the processor, the plurality of software applications each having an associated keyboard mode (see figure 2-11, keyboard as shown in figure 2-1 is supported plurality of software application, page 2-8, 2-10, 2-11, it is obvious that the software application is stored in the memory); and

the keyboard mode control software module automatically determining whether the keyboard output signals from the letter keys are to be converted into character

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codes or telephony tone signals, depending on which one of the plurality of software applications is active (see figure 2-11, the keyboard as shown in figure 2-11 is store plurality of applications to support multiple mode, each mode is associated with different software application. When the user select the telephone mode from the keyboard, the controller automatically run on the telephone software application, and when the user select the calculator mode, the controller automatically run on calculator software application, page 2-8, 2-10, 2-11).

It should be noticed that AP fails to teach a processor coupled to the multifunctional keyboard that is configured to convert each keyboard output signal generated by the letter keys into a character code; and means for converting each keyboard output signal generated by the letter keys into a telephony tone signal. However, Dayton teaches a processor coupled to the multifunctional keyboard that is configured to convert each keyboard output signal generated by the letter keys into a character code (see figure 8, controller 50, col.5, ln.5-15, figure 11, col.8, ln.3-29); and means for converting each keyboard output signal generated by the letter keys into a telephony tone signal (see figure 8, figure 11, controller 50, col.8, ln.2-29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Dayton into view of AP in order to provide a portable terminal suitable for brief queries to a central database, which is inexpensive as suggested by Dayton at col.1, ln.63-68.

Regarding claim 2, Dayton further teaches the communication device wherein the multifunctional keyboard is a QWERTY style keyboard (see col.4, ln.60-62).

Regarding claim 3, Dayton further teaches the communication device wherein the converting means is the processor (see col.5, ln.1-15).

Regarding claim 4, Dayton further teaches the communication device wherein the converting means is a tone signal generator (see figure 8, DTMF generator 53).

Regarding claim 5, Dayton further teaches the method and communication device wherein the tone signal generator also generates an audible tone when one of the letter keys is pressed (see col.9, ln.20-26).

Regarding claim 6, AP further teaches the communication device wherein the keyboard mode control software module also controls whether the keyboard output signals from the letter keys are converted into both character codes and telephony tone signals (see figure 2-11, keyboard as shown in figure 2-1 is supported plurality of software application, page 2-8, 2-10, 2-11).

Regarding claim 7, Dayton further teaches the communication device wherein the telephony tone signal generated for each letter key corresponds to an integer ranging from two (2) to nine (9) (see col.5, ln.25-30).

Regarding claim 8, Dayton further teaches the communication device wherein the telephony tone signals are Dual Tone Multi Frequency (DTMF) signals (see col.6, ln.2-18).

Regarding claim 9, Dayton further teaches the communication device wherein the character codes are American Standard Code for Information Interchange (ASCII) character codes (see figure 11, col.6, ln.60-64).

Regarding claim 10, after combine, Dayton further teaches the communication device wherein the plurality of keys on the multifunctional keyboard also includes a plurality of number keys, each of which is configured to generate a keyboard output signals; the processor is also configured to convert the keyboard output signals generated by the number keys into character codes; the converting means also converts the keyboard output signals generated by the number keys into telephony tone signals (see figure 4, key board 26 with plurality of key with letter, col.7, ln.22-35, see figure 8, figure 11, controller 50, col.8, ln.2-29); and AP teaches the keyboard mode control software also controls whether the keyboard output signals from the number keys are converted into character codes or telephony tone signals (see figure 2-11, keyboard as shown in figure 2-1 is supported plurality of software application, page 2-8, 2-10, 2-11).

Regarding claim 12, AP further teaches the communication device wherein the memory is coupled to the processor and includes a service store memory location that associates each software application with the associated a keyboard mode active (see figure 2-11, keyboard as shown in figure 2-1 is supported plurality of software application, page 2-8, 2-10, 2-11).

Regarding claim 18, AP teaches a method for controlling an operational mode of a multifunctional keyboard for a communication device, comprising the steps of:

providing a service store memory location that includes a log of the operational mode associated with a plurality of applications available on the communication device

(see figure 2-11, page 2-8, 2-10, it is obvious that the communicator should include the memory for storing the plurality of applications);

receiving the mode trigger signal, wherein the mode trigger signal indicates that one of the applications has been executed (see figure 2-11, page 2-8, 2-10, the row 1 of buttons at the top of the keyboard activate the corresponding applications with different modes); and

accessing the service store memory location to detect whether the telephony mode or the data mode is associated with the active application (see figure 2-11, page 2-8, 2-10, when the user selecting the telephone or text mode, the controller will accessing to the memory selecting corresponding application to run on that mode).

It should be noticed that AP fails to teach providing a telephony mode in which output signals from the multifunctional keyboard generate telephony tone signals; providing a data mode in which output signals from the multifunctional keyboard generate character codes; and receiving a mode trigger signal that controls whether the communication device should operate in the telephony mode or the data mode wherein the step of receiving a mode trigger signal that controls whether the communication device should operate in the telephony mode or the data mode. However, Dayton teaches such features (see figures 4-8, col.4, ln.54-68, col.5-6, ln.1-68).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Dayton into view of AP in order to provide a portable terminal suitable for brief queries to a central database, which is inexpensive as suggested by Dayton at col.1, ln.63-68.

Regarding claim 27, Dayton further teaches the method and communication device wherein the tone signal generator also generates an audible tone when one of the letter keys is pressed (see col.9, ln.20-26).

Regarding claim 28, Dayton further teaches the communication device wherein the audible tone may be enabled or disabled by a communication device user. It is obvious the user can disable or enable the audio tone whenever they want.

Regarding claim 29, Dayton further teaches the communication device wherein the audible tone generated while the communication device is executing the telephony mode is different from the audible tone generated while the communication device is executing the data mode (see col.5, ln.15-34, the DTMF tone should be different from ASCII tone).

Regarding claim 31, Dayton further teaches the communication device wherein the multifunctional keyboard is a QWERTY style keyboard (see col.4, ln.60-62).

Regarding claim 32, Dayton further teaches the communication device wherein the converting means is the processor (see col.5, ln.1-15).

Regarding claim 33, Dayton further teaches the communication device wherein the converting means is a tone signal generator (see figure 8, DTMF generator 53).

Regarding claim 34, Dayton further teaches the communication device wherein the telephony tone signals are Dual Tone Multi Frequency (DTMF) signals (see col.6, ln.2-18).

Regarding claim 35, Dayton further teaches the communication device wherein the character codes are American Standard Code for Information Interchange (ASCII) character codes (see figure 11, col.6, ln.60-64).

4. Claims 14-15, and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Public Application (Nokia user's manual 900i 06/07/1998, hereinafter, "AP") in view of Dayton et al. (U.S. Patent No.: 4,799,254, Hereinafter, "Dayton") as applied to claims 1 and 30 above, and further in view of Miller (U.S. Patent No.: 5,660,488).

Regarding claim 14, PA and Dayton, in combination, fails to teach the communication device wherein the multifunctional keyboard is uniformly distributed across a housing of the communication device such that one half of the letter keys are located on a left-hand side of the housing and the remaining letter keys are located on a right-hand side of the housing. However, Miller teaches such features (see figure 4, keyboard 440).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Miller, into view of AP and Dayton in order to conveniently operate the keyboard.

Regarding claim 15, Miller further teaches the communication device wherein the letter keys on the left-hand side of the housing are tilted at a negative angle from vertical and the letter keys on the right-hand side of the housing are tilted at a positive angle from vertical (see figure 4, keyboard 440).

Regarding claim 36, Miller further teaches the communication device wherein the multifunctional keyboard is uniformly distributed across a housing of the communication device such that one half of the letter keys are located on a left-hand side of the housing and the remaining letter keys are located on a right-hand side of the housing (see figure 4, keyboard 440).

Regarding claim 37, Miller further teaches the communication device wherein the letter keys on the left-hand side of the housing are tilted at a negative angle from vertical and the letter keys on the right-hand side of the housing are tilted at a positive angle from vertical (see figure 4, keyboard 440).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A. Pham whose telephone number is (571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2618
June 24, 2006
Examiner

Tuan Pham

Supervisory Patent Examiner
Technology Center 2600

Matthew Anderson